

**Appl. No.** : **10/006,371**  
**Filed** : **December 10, 2001**

## **AMENDMENTS TO THE CLAIMS**

1. (Original) A process for manufacturing optical analysis discs with microfluidic structures, said process including the steps of:

providing a lens disc;

patterning an intermediate adhesive layer with a pattern corresponding to predetermined microfluidic structures;

providing a cover disc having molded microfluidic structures; and

applying said cover disc onto said intermediate adhesive layer so as to match said molded microfluidic structures to said pattern to bond the cover disc onto the lens disc.

2. (Original) The process for manufacturing optical analysis discs according to claim 1 wherein said intermediate adhesive layer is patterned according to capturing chemistry spots.

3. (Original) The process for manufacturing optical analysis discs according to claim 1 wherein said intermediate adhesive layer is applied by a transfer adhesive technique.

4. (Original) The process for manufacturing optical analysis discs according to claim 1 wherein said intermediate adhesive layer is applied by a printing technique.

5. (Original) The process for manufacturing optical analysis discs according to claim 3 wherein said intermediate adhesive layer is made of a thermogluue.

6. (Currently Amended) The process for manufacturing optical analysis discs according to claim 1 wherein the step of providing a cover disc having molded microfluidic structures includes the steps of:

providing a mastering support;

coating the mastering support with a photoresist composition;

transferring onto said mastering support a pattern design of microfluidic structures;

developing said photoresist composition according to said pattern design;

depositing a metal layer onto the mastering support until a plated stamper is obtained;

peeling of said plated stamper; and

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molding said microfluidic structures in a cover disc according to said plated stamper.

7. (Original) The process for manufacturing optical analysis discs according to claim 6 wherein said mastering support is a mastering glass.

8. (Original) The process for manufacturing optical analysis discs according to claim 6 wherein said mastering support is prepared by a process of cleaning.

9. (Original) The process for manufacturing optical analysis discs according to claim 6 wherein said photoresist composition is selected from the group consisting of AZ5412, AZ4620, SU8-5, SU8-25, SU8-50, and SU8-100.

10. (Original) The process for manufacturing optical analysis discs according to claim 6 wherein said coating of a photoresist composition is carried out by dipping, spray coating, or spin coating.

11. (Original) The process for manufacturing optical analysis discs according to claim 6 wherein the steps of coating the mastering support with a photoresist composition; transferring onto said mastering support a pattern design of microfluidic structures; and developing said photoresist composition according to said pattern design are repeated to obtain multi-layer microfluidic structures.

12. (Original) The process for manufacturing optical analysis discs according to claim 6 wherein the depositing of a metal layer is carried out by vacuum deposition.

13. (Original) An optical analysis disc having microfluidic structures, said disc comprising:

a lens disc;

a patterned adhesive as intermediate layer for disc bonding; and

a cover disc with molded microfluidic structures.

14. (Original) The optical analysis disc according to claim 13 wherein the lens disc comprises signaling tracks.

15. (Original) The optical analysis disc according to claim 13 wherein said patterned adhesive is patterned according to capturing chemistry spots.

16. (Original) The optical analysis disc according to claim 13 wherein said patterned adhesive layer is a thermogluue.

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17. (Original) The process for manufacturing optical analysis discs according to claim 4 wherein said intermediate adhesive layer is made of a thermoglu.